Cold Weather-Know the Threat

Download: 1.91MB
Word Format: 88k

If you don't know the threat, you really can't fight a battle well. The threat of cold weather is no exception; many generals have lost the battle of the cold. Napoleon learned this in 1812 when, during his retreat from Russia, he lost 250,000 soldiers as a result of the cold. In the Crimean War (1852-1856), 5,215 French soldiers succumbed to the cold--1,178 died. During the same war at the battle of Sevastopol, 2,800 British soldiers suffered horrible cold weather injuries--900 died.

Things didn't get much better early in the 20th century. During World War I, the British had 115,000 cases of all types of cold injuries. During the Dardanelles campaign, the British had 14,500 cold weather casualties. In World War II, the Germans failed to learn from Napoleon. On the Eastern Front between December 1941 and January 1942, 100,000 soldiers suffered frostbite--15,000 of those required amputations.

The U.S. Army has not been immune. In World War II, records show 46,000 cold injuries in the European theater from autumn 1944 to spring 1945. In the Korean War, it is estimated that nearly 10 percent of all wounds were cold injuries.

The good news is that we learned valuable lessons from those incidents. Today we have better equipment and training; cold injuries, even during initial deployment to places like Bosnia and Kosovo, are rare indeed. However, they will stay rare only if you know the threat.

That's when a leader's job of protecting soldiers gets tougher. Leaders must watch for early signs of cold stress in their soldiers.

Plan for the cold

The most important thing is planning for the cold. Make sure you have accurate weather information for the area and time of the mission. Be particularly aware of rain, snow, and winds (wet conditions and windchill greatly increase chance of injury). Ensure soldiers have appropriate cold weather clothing. If the tactical situation permits, use covered vehicles for troop transport. Have warming tents or areas available if possible. Have warm food and drinks on hand.

Wear the right clothes the right way

The most important individual preventive measure is the proper wearing of cold weather clothing and boots. Some soldiers think wearing every article of cold weather clothing issued is the way to go. Wrong! This can cause overheating and dehydration, or restrict circulation in the extremities which can increase the risk of frostbite. All cold weather clothing should be worn loose and in layers. This allows for insulation by air trapped between the layers. Socks should be changed frequently and boots rotated.

Proper wear of boots is important. You don't wear jungle boots in the snow, and you shouldn't wear intermediate cold weather boots (Gore-Tex™ lined, like Matterhorn™ boots) indoors and out, year round. Wet or damp boots need to be dried with warm air whenever possible. If boots are removed at night and moisture in them freezes, it can be just like sticking your feet in ice cubes the next day--a perfect set-up for a cold injury.

It is important to keep clothing clean and dry. Dirt, oil, or water can increase the rate of heat loss by reducing the insulation ability of the clothes. It is also important to keep the clothing repaired--a broken zipper cannot keep the cold out. Headgear is extremely important; the body can lose large amounts of heat through the head.

It is important to protect the hands and fingers by wearing proper gloves. Nomex™ aviator gloves may be light and flexible and look cool, but they are designed to protect from fires, not extreme cold, and will do little to protect your hands when they are wet. Unless specifically authorized, they should not be worn.

Always remember the acronym COLDER:

C: Keep clothing clean.
O: Avoid overheating.
L: Wear clothing loose and in layers.
D: Keep clothing as dry as possible.
E: Examine clothing for holes, tears, and broken fasteners.
R: Repair or replace damaged clothing.

Other contributing factors and prevention techniques

By knowing some of the other factors that contribute to or prevent cold injury, you can further protect yourself.

- Previous cold injuries. Soldiers with previous cold injuries are more susceptible to another one. These soldiers must be identified, and first-line supervisors should monitor them closely.
- Tobacco. Nicotine, regardless if it comes from a cigarette, snuff, pipe, or cigar causes blood vessels to constrict. This is particularly dangerous in the hands and feet and can lead to, or worsen, a cold injury.
- Alcohol & caffeine. These can lead to increased urination, and subsequent dehydration.
- Meals. If you skip meals, the first thing the body does is to slow the metabolism. Slower metabolism means less heat production and increased chance of cold injury.
- Activity. Huddling up and not moving is the wrong thing to do. The more you move, the more heat you produce. Decreased activity decreases the time it takes to get an injury.
- Buddy system. The buddy system is a great way to help prevent injuries if the soldiers are trained to know what to look for.

- Self-checks. A simple self-check is to pinch the fingernail and watch how fast the blood returns to your finger. The slower the return, the higher the potential for a cold injury to the fingers or toes.
- Other information. More information on cold injuries can be found in FM 21-10 and FM 21-11; GTA 5-8-12 (this is a good pocket guide for soldiers); Technical Note No. 92-2, Sustaining Health and Performance in the Cold: Environmental Medicine Guidance for Cold-Weather Operations, published by the U.S. Army Research Institute of Environmental Medicine; and FM 21-76, Survival.

Prevention is key

All cold weather injuries are preventable! Prevention is the responsibility of leaders at all levels, as well as the individual soldier. We have learned the lessons of unpreparedness from soldiers who have gone before us. Cold injuries are always a threat in cold environments; however, only by proper planning and training for cold weather operations can we beat it.